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10/550,529	07/12/2006	Jun Hirano	L8638.05108	4475
52989	7590	04/28/2011	EXAMINER	
James Edward Ledbetter 1875 Eye Street Suite 1200 Washington, DC 20006			OBAYANJU, OMONIYI	
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			2617	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/550,529

**Applicant(s)**

HIRANO ET AL.

**Examiner**

OMONIYI A. OBAYANJU

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 February 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 50-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 50-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 02/24/2011 have been fully considered but they are not persuasive.

First, **in regards to the Applicant's initiated interview summary**, the Applicant stated that "No agreement was reached regarding patentability, **although the Examiners did suggest that the arguments advanced by the Applicants' representative during the interview could be set forth in a future written response**, and that the Examiners would consider the arguments in deciding whether to allow the case". (Emphasis Added)

In **response to the interview summary, the Applicant was advised to make amendments** to clarify the claimed limitation of the present invention. During the interview, the Examiner pointed out that the limitations of the claim are not adequately and/or consistently linked or tied together to make the present invention distinct from the applied prior arts. For example, based on the Examiner's broadest interpretation of the described invention in the specification, the Examiner believe that one high priority time slot was further divided into multiple time slots, wherein one of the divided time slots is categorized as higher priority slot and the other divided slots are categorized as lower priority slot.

"50. A radio communication device in whose communication area another radio communication device operates, comprising:  
a detection section that detects an operation of the other radio communication device during a time slot~~[[,]]~~with the time slot being used at a high priority by the radio communication device, within the communication area of the radio communication device; and  
a contention resolution section that performs contention resolution processing when the detection section detects an overlap based on the other communication device operating during the time slot being used at a high priority by the radio communication device, said contention resolution section comprising:  
a time slot dividing section that divides the time slot being used at a high priority by the radio communication device into a plurality of slots, and a slot setting section that sets one of the plurality of divided slots to the radio communication device as a higher priority slot, and sets another of the plurality of divided slots to the other radio communication device as a lower priority slot."

The claim above is an example of linking the limitations for argument sake. The Applicant is welcome to include detail amendments as described in the original specification on file in order to clearly distinguish the present invention from the applied prior arts.

Therefore, based at least on the explanation above to clarify the claimed limitations and the arguments presented by the Applicant, the Examiner agreed to further reconsider and/or search the claimed invention and decide whether to allow the case as stated by the Applicant in the interview summary.

**Second, in regards to the independent claim 50, the Applicant argued that** the prior art reference (Montano et al) fails to teach the claimed limitation at least in part "a detection section that detects an operation of the other radio communication device during a time slot".

The Applicant further specifically stated that "Montano's mere disclosure that the "coordinator 310" and the "non-coordinator devices 321-325" can communicate with each other in a usable area 350 is not the same as detecting another radio communication device".

**In response the Examiner respectfully disagrees with** the Applicant's argument. As it's readily known and/or understood by one of ordinary skill in the art, for two or more communication devices to "communicate", it is inherent that they already detected each other. Therefore, as discussed in Montano, the coordinator communication device communicates with the non-coordinator devices, thus the coordinating device inherently detects the non-coordinating devices in order to establish communication in a communication channel of a wireless communication system. However, as discussed in the rejection, Montano fails to explicitly teach that the time slot (communication channel) being used at a high priority by the communication device.

But, the primary reference (Haartsen) teaches this limitation as discussed in (pg. 2, pp0015), and in the previous rejection. Therefore, the Applicant's arguments are not persuasive to overcome the prior art rejection of Haartsen in view of Montano given the motivation as discussed in the rejection.

The Applicant further argued that Montano fails to mention dividing time slot into a plurality of slots.

**In response the Examiner respectfully disagrees with** the Applicant's argument. As discussed in the rejection, Montano clearly teaches **sharing time slot**

among multiple communication devices as shown and discussed in **fig. 10, #1050, and col. 12, lines 52-58**. Thus the Applicant's claimed limitation does not specifically define dividing time slot so as to be distinguished from the applied prior art rejection, given the claimed limitation its broadest reasonable interpretation as discussed above.

Furthermore, **the Applicant argued and/or stated** that "one skilled in the art would not have been motivated to combine Haartsen, Montano and Chuah to arrive at the radio communication device recited by claim 50 because these prior art references teach away from the combination, or at the very least, do not have a reasonable expectation of success. MPEP 2143.02" Also, the Applicant **disagreed with the Examiner's response** as discussed in the **supplemental office action mailed 11/09/2010**, and repeated similar and/or the same arguments i.e. "the Applicants **re-iterate** each of the above arguments and note that every embodiment of Haartsen (not just "preferred" embodiments or "disclosed examples") teaches that a pseudo-token prevents multiple communication units from transmitting in the same channel at the same time, so there would be no need to modify Haartsen to "prevent or avoid signal or data collision in the channel" using the time division disclosed by Montano and Chuah. Accordingly, **it is respectfully submitted that one skilled in the art would not have been motivated to combine Haartsen, Montano and Chuah as set forth in the Office Action** to arrive at the radio communication device recited by claim 50".  
(Emphasis Added).

Thus, as previously discussed in the **supplemental office action mailed 11/09/2010**, and will be repeated below;

The **Examiner respectfully disagrees with Applicant's arguments**. Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiments. In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). Furthermore, the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004). See MPEP 2123.

Therefore, as presented in the office action, Haarsten does not criticize, discredit or otherwise discourage the claimed limitation i.e. "a time slot dividing section that divides the time slot into a plurality of slots". Thus it would have been obvious to one of ordinary skill in the art at time invention was made to reasonably combine the teachings of Haarsten with the dividing slots solution of Montano (col. 2, lines 65-67, and col. 16, lines 1-5) to achieve the goal of accurately managing the transmission of data in a communication system to prevent or avoid signal or data collision in the channel and to carrying out desired communication between a controlling device and non-controlling devices. This will reasonably enhance the success of traffic communication in a communication system while minimizing and/or avoiding collision in the communication channels.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 50, 51, 53-60, are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen (US Publication No. 20020126692) in view of Montano et al. (US Patent No. 7280518) and further in view of Chuah (US Publication No. 20030214928).

As to **claims 50 and 60**, Haartsen teaches a radio communication device in whose communication area another radio communication device operates, comprising: a time slot being used at a high priority by the radio communication device, within the communication area of the radio communication device (pg. 2, pp0015, lines 1-10); and a contention resolution section that performs contention resolution processing when the detection section detects an overlap (fall on the same time slot) based on the other communication device operating during the time slot (pg. 4, pp0042, lines 1-15). However, Haartsen fails to teach a detection section that detects an operation of the other radio communication device during a time slot, and that said contention resolution section comprising: a time slot dividing section that divides the time slot into a plurality



of slots, and a slot setting section that sets one of the plurality of divided slots to the radio communication device as a higher priority slot, and sets another of the plurality of divided slots to the other radio communication device as a lower priority slot.

But, Montano teaches a detection section that detects an operation of the other radio communication device during a time slot (fig. 3, #350, and col. 2, lines 65-67), and that said contention resolution section comprising: a time slot dividing section that divides the time slot into a plurality of slots (col. 16, lines 1-5). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen with the teachings of Montano to achieve the goal of accurately managing the transmission of data in a communication system to prevent or avoid signal or data collision in the channel and to carrying out desired communication between a controlling device and non-controlling devices.

However, both Haartsen and Montano failed to explicitly teach that a slot setting section that sets one of the plurality of divided slots to the radio communication device as a higher priority slot, and sets another of the plurality of divided slots to the other radio communication device as a lower priority slot.

But, Chuah teaches a slot setting section that sets one of the plurality of divided slots to the radio communication device as a higher priority slot, and sets another of the plurality of divided slots to the other radio communication device as a lower priority slot (pg. 7, pp0092). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen and Montano with the teachings of Chuah to achieve a communication system that can accurately and

reliably provide communication access or channel assignment to efficiently transfer data information and to overcome delays in a communication system.

**As to claim 51**, Haartsen in view of Montano and further in view of Chuah teaches the limitations of claim 50 as discussed above.

Montano further teaches wherein the radio communication device detects a number of other radio communication devices operating in the communication area (fig. 3, #350, and col. 2, lines 65-67), and the time slot dividing section divides the time slot based on the number of other detected radio communication devices (col. 16, lines 1-5). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen with the teachings of Montano to achieve the goal of accurately managing the transmission of data in a communication system to prevent or avoid signal or data collision in the channel and to carrying out desired communication between a controlling device and non-controlling devices.

**As to claim 53**, Haartsen in view of Montano and further in view of Chuah teaches the limitations of claim 50 as discussed above.

Haartsen further teaches a time slot identification information sending section that sends identification information of the higher priority slot to the other radio communication device (pg. 2, pp0018, lines 13-17), so that the other radio communication device selects the lower priority slot based on the identification information of the higher priority slot (pg. 2, pp0012-pp0017).

**As to claims 54 and 55**, Haartsen teaches further comprising a higher priority communication section that accesses a wireless medium, in the higher priority slot,

using a waiting time shorter than another waiting time used for the other radio communication device (pg. 6, pp0049, lines 1-14).

**As to claim 56**, Haartsen in view of Montano and further in view of Chuah teaches the limitations of claim 50 as discussed above.

Montano further teaches wherein the time slot division section is so arranged as to divide a communication period corresponding to the time slot evenly (fig. 9, #940) into the plurality of slots (col. 14, lines 45-55), the communication period having a common period which is determined among the radio communication devices (col. 15, lines 1-10). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen and Montano to achieve the goal of accurately managing the transmission channel of a communication system to prevent or avoid signal collision in the channel.

**As to claim 57**, Haartsen in view of Montano and further in view of Chuah teaches the limitations of claim 56 as discussed above.

Montano further teach comprising a synchronization section that synchronizes with the other radio (non-coordinating) communication devices regarding the common period (col. 7, lines 52-55). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen and Montano to adequately and efficiently sync wireless terminals over an allocated time in a communication system.

**As to claim 58**, Haartsen in view of Montano and further in view of Chuah teaches similar limitations as discussed in claim 51 above.

As to **claim 59**, Haartsen teaches wherein the radio communication device detects a number of other radio communication devices operating in the communication area, and further comprises a time slot resetting section that resets the time slot by decreasing the divided slots in the time slot based on the number of the other detected radio communication devices, when the detection section detects that the other radio communication device, which uses the lower priority slot, shuts down (pg. 5, pp0042, lines 13-15).

Claims 52, is rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen (US Publication No. 20020126692) in view of Montano et al. (US Patent No. 7280518) and Chuah (US Publication No. 20030214928) and further in view of Le et al. (US Patent No. 7154877).

As to **claim 52**, Haartsen in view of Montano and further in view of Chuah teaches the limitations of claim 50 as discussed above. However they failed to teach wherein the contention resolution section comprises an exchanging section that exchanges identification information of the radio communication device with identification information of the other radio communication device, and the slot setting section is so arranged as to select the higher priority slot which can be used at a higher priority by the radio communication device, based on a comparison result of the identification information of the radio communication device with the identification information of the other radio communication device.

But Le teaches wherein the contention resolution section comprises an exchanging section that exchanges identification information of the radio communication device with identification information of the other radio communication device, and the slot setting section is so arranged as to select the higher priority slot which can be used at a higher priority by the radio communication device, based on a comparison result of the identification information of the radio communication device with the identification information of the other radio communication device (col. 6, lines 30-52). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen and Montano with the teachings of Chuah and Le to achieve a communication system that can accurately and reliably provide communication access or channel assignment to efficiently transfer data information and to overcome delays in a communication system.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMONIYI A. OBAYANJU whose telephone number is (571)270-5885. The examiner can normally be reached on Mon - Fri, 7:30 - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KAMRAN AFSHAR can be reached on 571-272-7796. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. A. O./

Examiner, Art Unit 2617

/MARIVELISSE SANTIAGO-CORDERO/

Primary Examiner, Art Unit 2617